AUTOMATICALLY PRESCRIBING TOTAL BUDGET FOR MARKETING AND SALES RESOURCES AND ALLOCATION ACROSS SPENDING CATEGORIES

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application No. 60/991,147, filed November 30, 2007, and entitled "AUTOMATICALLY PRESCRIBING TOTAL MARKETING BUDGET AND ALLOCATION ACROSS MARKETING CATEGORIES," which is incorporated herein in its entirety by reference.

TECHNICAL FIELD

[0002] The described technology is directed to the field of automated decision support tools, and, more particularly, to the field of automated budgeting tools.

BACKGROUND

[0003] Marketing communication ("marketing") is the process by which the sellers of a product or a service—i.e., an "offering"—educate potential purchasers about the offering. Marketing is often a major expense for sellers, and is often made of a large number of components or categories, such as a variety of different advertising media and/or outlets, as well as other marketing techniques. Despite the complexity involved in developing a marketing budget attributing a level of spending to each of a number of components, few useful automated decision support tools exists, making it common to perform this activity manually, relying on subjective conclusions, and in many cases producing disadvantageous results.

[0004] In the few cases where useful decision support tools exist, it is typically necessary for the tool's user to provide large quantities of data about past allocations of marketing resources to the subject offering, and the results that that they produced.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] Figure 1 is a high-level data flow diagram showing data flow within a typical arrangement of components used to provide the facility.

[0006] Figure 2 is a block diagram showing some of the components typically incorporated in at least some of the computer systems and other devices on which the facility executes.

[0007] Figure 3 is a table drawing showing sample contents of a library of historical marketing efforts.

[0008] Figure 4 is a display diagram showing a sign-in page used by the facility to limit access to the facility to authorized users.

[0009] Figure 5 is a flow diagram showing a page display generated by the facility in a view/edit mode.

[0010] Figures 6-9 show displays presented by the facility in order to solicit information about the subject offering for which an overall marketing budget and its distribution are to be prescribed by the facility.

[0011] Figure 10 is a display diagram showing a result navigation display presented by the facility after collecting information about the subject offering to permit the user to select a form of analysis for reviewing results.

[0012] Figure 11 is a display diagram showing a display presented by the facility to convey the optimal total marketing budget that the facility has is determined for the subject offering.

[0013] Figure 12 is a display presented by the facility to show spending mix information. The display includes an overall budget prescribed by the facility.

[0014] Figure 13 is a process diagram that describes collecting additional offering attribute information from the user.

[0015] Figure 14 is a process diagram showing the derivation of three derived measures for the subject offering: cognition, affect, and experience.

[0016] Figure 15 is a table diagram showing sets of marketing activity allocations, each for a different combination of the three derived attributes shown in Figure 14.

[0017] Figure 16 is a process diagram showing how the initial allocation specified by the table in Figure 15 should be adjusted for a number of special conditions.

[0018] Figure 17 is a process diagram showing how the facility determines dollar amount for spending on each marketing activity.

[0019] Figure 18 is a process diagram showing the final adjustment to the results shown in Figure 17.

[0020] Figure 19 is a display diagram showing a display presented by the facility to portray resource allocation prescriptions made by the facility with respect to a number of related subject offerings, such as the same product packaged in three different forms.

[0021] Figures 20-49 show one or more sample implementations of the facility reflecting various embodiments.

[0022] Figures 50 and 51 show sample results produced by the facility in some embodiments.

DETAILED DESCRIPTION

[0023] The inventors have recognized that, in many cases, such as in the case of a new offering, the large quantities of data about past allocations of marketing resources to the subject offering and the results that that they produced that a user would have to provide to a conventional decision support tool is not available. The inventors have further recognized that, even where such data is available, it can be inconvenient to access this data and provide it to the decision support tool.

[0024] Accordingly, a tool that automatically prescribed an advantageous allocation of funds or other resources to an offering and its various components without requiring the user to provide historical performance data for the offering would have significant utility.

[0025] A software facility that uses a qualitative description of a subject offering to automatically prescribe both (1) a total budget for marketing and sales resources for a subject offering and (2) an allocation of that total budget over multiple spending categories -- also referred to as "activities" -- in a manner intended to optimize a business outcome such as profit for the subject offering based on experimentally-obtained econometric data ("the facility") is provided.

[0026] In an initialization phase, the facility considers data about historical marketing efforts for various offerings that have no necessary relationship to the marketing effort for the subject offering. The data reflects, for each such effort: (1) characteristics of the marketed offering; (2) total marketing budget; (3) allocation among marketing activities; and (4) business results. This data can be obtained in a variety of ways, such as by directly conducting marketing studies, harvesting from academic publications, etc.

[0027] The facility uses this data to create resources adapted to the facility's objectives. First, the facility calculates an average elasticity measure for total marketing budget across all of the historical marketing efforts that predicts the impact on business outcome of allocating a particular level of resources to total marketing budget. Second, the facility derives a number of adjustment factors for the average elasticity measure for total marketing budget that specify how much the average elasticity measure for total marketing budget is to be increased or decreased to reflect particular characteristics of the historical marketing efforts. Third, for the historical marketing efforts of each of a number groups of qualitatively similar offerings, the facility derives per-activity elasticity measures indicating the extent to which each marketing activity impacted business outcome for marketing efforts for the group.

[0028] The facility uses interviewing techniques to solicit a qualitative description of the subject offering from user. The facility uses portions of the solicited qualitative description to identify adjustment factors to apply to the average elasticity measure for total marketing budget. The facility uses a version of average elasticity measure for total marketing budget adjusted by the identified adjustment factors to identify an ideal total marketing budget expected to produce the highest level of profit for the subject offering, or to maximize some other objective specified by the user.

[0029] After identifying the ideal total marketing budget, the facility uses the solicited qualitative description of the subject offering to determine which of the groups of other offerings the subject offering most closely matches, and derives a set of ideal marketing activity allocations from the set of per-activity elasticity measures derived for that group.

[0030] In this manner, the facility automatically prescribes a total marketing resource allocation and distribution for the subject offering without requiring the user to provide historical performance data for the subject offering.

[0031] The sales or market response curves determined by the facility predict business outcomes as mathematical functions of various resource drivers:

$$\text{Sales} = F(\text{Any Set of Driver Variables}),$$

where F denotes a statistical function with the proper economic characteristics of diminishing returns

[0032] Further, since this relationship is based on data--either time series, cross-section, or both time series and cross-section--the method inherently yields direct, indirect, and interaction effects for the underlying conditions.

[0033] These effects describe how sales responds to changes in each of the underlying driver variables and data structures. Often, these response effects are known as "lift factors," one proper subset of which are elasticities. As a special subset or case, these methods allow reading any on-off condition for the cross-sections or time-series.

[0034] There are various classes of statistical functions which are appropriate for determining and applying different types of lift factors. In some embodiments, the facility uses a class known as multiplicative and log log (using natural logarithms) and point estimates of the lift factors.

[0035] In certain situations, the facility uses methods that apply to categorical driver data and categorical outcomes. These include the classes of probabilistic lift factors known as multinomial logit, logit, probit, non-parametric, or hazard methods.

[0036] In various embodiments, the facility uses a variety of types of lift factors determined in a variety of ways. Statements about "elasticity" herein extend to lift factors of a variety of other types.

[0037] Figure 1 is a high-level data flow diagram showing data flow within a typical arrangement of components used to provide the facility. A number of web client computer systems 110 that are under user control generate and send page view requests 131 to a logical web server 100 via a network such as the Internet 120. These requests typically include page view requests and other requests of various types relating to receiving information about a subject offering and providing information about prescribed total marketing budget and its distribution. Within the web server, these requests may either all be routed to a single web server computer system, or may be loaded-balanced among a number of web server computer systems. The web server typically replies to each with a served page 132.

[0038] While various embodiments are described in terms of the environment described above, those skilled in the art will appreciate that the facility may be implemented in a variety of other environments including a single, monolithic computer system, as well as various other combinations of computer systems or similar devices connected in various ways. In various embodiments, a variety of computing systems or other different client devices may be used in place of the web client computer systems, such as mobile phones, personal digital assistants, televisions, cameras, etc.

[0039] Figure 2 is a block diagram showing some of the components typically incorporated in at least some of the computer systems and other devices on which the facility executes. These computer systems and devices 200 may include one or more central processing units ("CPUs") 201 for executing computer programs; a computer memory 202 for storing programs and data while they are being used; a persistent storage device 203, such as a hard drive for persistently storing programs and data; a computer-readable media drive 204, such as a CD-ROM drive, for reading programs and data stored on a computer-readable medium; and a network connection 205 for connecting the computer system to other computer systems, such as via the Internet. While computer systems configured as described above are typically used to support the operation of the facility, those skilled in the art will appreciate that the facility may

be implemented using devices of various types and configurations, and having various components.

[0040] Figure 3 is a table drawing showing sample contents of a library of historical marketing efforts. The library 300 is made up of entries, such as entries 310, 320, and 330, each corresponding to a set of one or more historical marketing efforts each sharing a similar context. Each entry contains a number of context attribute values that hold true for the historical marketing efforts corresponding to the entry, including values for a new product attribute 311, a cognition score attribute 312, an affect score attribute 313, an experience score 314, a message clarity score 315, and a message persuasiveness score 316. Each entry further contains values for the following statistical measures for the historical marketing efforts corresponding to the entry: log of the outcome 351, base 352, log of outcome with a lag factor 353, log of external 354, log of relative price 355, and log of relative distribution 356. Each entry further contains logs of advertising efficiency values for each of a number of categories, including TV 361, print 362, radio 363, outdoor 364, Internet search 365, Internet query 366, Hispanic 367, direct 368, events 369, sponsorship 370, and other 371.

[0041] Figure 4 is a display diagram showing a sign-in page used by the facility to limit access to the facility to authorized users. A user enters his or her email address into field 401, his or her password into field 402, and selects a signing control 403. If the user has trouble signing in in this manner, the user selects control 411. If the user does not yet have an account, the user selects control 421 in order to create a new account.

[0042] Figure 5 is a flow diagram showing a page display generated by the facility in a view/edit mode. The display lists a number of scenarios 501-506, each corresponding to an existing offering prescription generated for the user, or generated for an organization with which the user is associated. For each scenario, the display includes the name of the scenario 511, a description of the scenario 512, a date 513 on which the scenario was created, and a status of the scenario. The user may select any of the scenarios, such as by selecting its name, or its status, to obtain more information about the scenario. The display also includes a tab area 550 that the user may use in order to navigate different modes of the facility. In addition to tab 552 for the present

view/edit mode, the tab area includes a tab 551 for a create mode, a tab 553 for a compare mode, a tab 554 for a send mode, and a tab 555 for a delete mode. The user can select any of these tabs in order to activate the corresponding mode.

[0043] Figures 6-9 show displays presented by the facility in order to solicit information about the subject offering for which an overall marketing budget and its distribution are to be prescribed by the facility. Figure 6 shows controls for entering values for the following attributes: current revenue 601, current annual marketing spending 602, anticipated growth rate for the next year in the industry as a whole 603, gross profit expressed as a percentage of revenue 604, and market share expressed as a percentage of dollar 605. The display further includes a save control 698 that the user can select in order to save the attribute values that they have entered, and a continue control 699 that the user may select in order to proceed to the next display for entering the context attribute values.

[0044] Figure 7 is a further display presented by the facility to solicit attribute values for the subject offering. It includes controls for inputting values for the following context attributes: industry newness 701, market newness 702, channel newness 703, and marketing innovation 704.

[0045] Figure 8 is a further display presented by the facility in order to solicit attribute values. It has controls that the user may use to enter the values for the following context attributes: newness of marketing information content 801, company position in the market 802, market share 803, and pricing strategy 804.

[0046] Figure 9 is a further display presented by the facility in order to solicit attribute values. It contains a control 901 that the user may use to determine whether customer segment detail will be included. The display further contains charts 910 and 920 for specifying values of additional context attributes. Chart 910 can be used by the user to simultaneously specify values for the consistency and clarity of branding messaging and positioning efforts by the company responsible for the subject offering. In order to use chart 910, the user selects a single cell in the grid included in the chart corresponding to appropriate values of both the consistency and clarity attributes.

Section 920 is similar, enabling the user to simultaneously select appropriate values for the persuasiveness and likeability of the company's advertising.

[0047] Figure 10 is a display diagram showing a result navigation display presented by the facility after collecting information about the subject offering to permit the user to select a form of analysis for reviewing results. The display includes a control 1001 that the user may select in order to review market share information relating to the result, a control 1002 that the user may select in order to review spending mix information relating to the result, and a control 1003 that the user may select in order to review profit and loss information relating to the result.

[0048] Figure 11 is a display diagram showing a display presented by the facility to convey the optimal total marketing budget that the facility has determined for the subject offering. The display includes a graph 1110 showing two curves: revenue with respect to total marketing budget (or "marketing spend") 1120 and profit (i.e., "marketing contribution after cost") with respect to total marketing budget 1130. The facility has identified point 1131 as the peak of the profit curve 1130 and has therefore identified the corresponding level of marketing spend, $100, as the optimal marketing spend. The height of point 1131 shows the expected level of profit that would be produced by this marketing spend, and the height of point 1121 shows the expected level of total revenue that would be expected at this marketing spend. Table 1150 provides additional information about the optimal marketing spend and its calculation. The table shows, for each of current marketing spend 1161, ideal marketing spend 1162, and delta between these two 1163: revenue 1151 projected for this level of marketing spend; costs of goods and services 1152 anticipated to be incurred at this level of marketing spend; gross margin 1153 to be procured at this level of marketing spend; the marketing spend 1154; and the marketing contribution after cost 1155 expected at this level of marketing spend.

[0049] In order to define the profit curve and identify the total marketing budget level at which it reaches its peak, the facility first determines a total marketing budget elasticity appropriate for the subject offering. This elasticity value falls in a range between .01 and .30, and is overridden to remain within this range. The facility calculates the elasticity by adjusting an initial elasticity value, such as .10 or .11, in

accordance with a number of adjustment factors each tied to a particular attribute value for the subject offering. Sample values for these adjustment factors are shown below in Table 1.

	Industry Newness	Marketing Innovation	New Information	Market Share	Advertising Quality
High	.05	.1	.05	-.03	.04
Medium	0	0	0	0	0
Low	-.02	-.03	-.02	.02	-.03

Table 1

The industry newness column corresponds to control 701 shown in Figure 7. For example, if the top check box in control 701 is checked, then the facility selects the adjustment factor .05 from the industry newness column; if either of the middle two boxes in control 701 are checked, then the facility selects the adjustment factor 0 from the industry newness column; and if the bottom checkbox in control 701 is checked, then the facility selects the adjustment factor -.02 from the industry newness column. Similarly, the marketing innovation column corresponds to control 704 shown in Figure 7, the new information column corresponds to control 801 shown in Figure 8, and the market share column corresponds to control 803 shown in Figure 8. The advertising quality column corresponds to charts 910 and 920 shown in Figure 9. In particular, the sum of the positions of the cells selected in the two graphs relative to the lower left-hand corner of each graph is used to determine a high, medium, or low level of advertising quality.

[0050] The facility then uses the adjusted total marketing budget elasticity to determine the level of total marketing budget at which the maximum profit occurs, as is discussed in detail below in Table 2.

Definitions:

Sales = S

Base = β

Marketing Spend = M

Elasticity = α

Cost of Goods Sold (COGS) = C

Profit = P (P is a function of S, C, M, as defined in equation 2 below)

Fundamental equation relating Sales to Marketing (alpha and beta will be supplied):

Equation (1): $S = \beta * M^{\alpha}$

Equation relating Sales to Profits (C will be known); the facility substitutes for Sales in equation (1) above and sets the program to maximize profits for a given alpha and beta:

Equation (2): $P = \left[S * (1-C) - M\right]$

Solve Equation (2) for Sales: $\frac{(P+M)}{(1-C)} = S$

Substitute for S in Fundamental Equation: $\frac{(P+M)}{(1-C)} = P * M^{\alpha}$

Solve for P as a function of M, C, alpha and beta to obtain P as a function of M:

$P = \left[\beta * M^{\alpha} * (1-C)\right] - M$

Take derivatives: $\frac{dP}{dM} = \left(\left[(1-C)\beta\alpha\right] * M^{\alpha-1}\right) - 1$

Set to zero to give local inflection point: $1 = \left[(1-C)\beta\alpha\right] * M^{\alpha-1}$

Solve for M: $M = \left(\frac{1}{\left[(1-C)\beta\alpha\right]}\right)^{\frac{1}{\alpha-1}}$

Check sign of second derivative (to see that it is a max not a min):

$\left[(1-C)\beta\alpha(\alpha-1)\right] * M^{\alpha-2} < 0 \quad ?$

Table 2

[0051] Figure 12 is a display presented by the facility to show spending mix information. The display includes an overall budget 1201 prescribed by the facility.

The user may edit this budget if desired to see the effect on distribution information shown below. The display also includes controls 1202 and 1203 that the user may use to identify special issues relating to the prescription of the marketing budget. The display further includes a table 1210 showing various information for each of a number of marketing activities. Each row 1211-1222 identifies a different marketing activity. Each row is further divided into the following columns: current percentage allocation 1204, ideal percentage allocation 1205, dollar allocation to brand in thousands 1206, dollar allocation to product in thousands 1207, and dollar difference in thousands between current and ideal. For example, from row 1214, it can be seen that the facility is prescribing a reduction in allocation for print advertising from 15% to 10%, $3.3 million of which would be spent on print advertising for the brand and $2.2 million of which would be spent on print advertising for the product, and that the current allocation to print marketing is $1.85 million greater than the ideal allocation. The display further includes a section 1230 that the user may use to customize a bar chart report to include or exclude any of the budget and marketing activities. It can be seen that the user has selected check boxes 1231-1233, causing sections 1250, 1260, and 1270 to be added to the report containing bar graphs for the TV, radio, and print marketing activities. In section 1250 for the TV marketing activity contains bar 1252 for the current percentage allocation to national TV, bar 1253 for the current percentage allocation to cable TV, bar 1257 for the ideal percentage allocation to national TV, and bar 1258 for the ideal percentage allocation for cable TV. The other report sections are similar.

[0052] Figures 13-18 describe the process by which the facility determines the activity distribution shown in Figure 12. Figure 13 is a process diagram that describes collecting additional offering attribute information from the user. In some embodiments, this additional attribute information is obtained from the user using a user interface that is similar in design to that shown in Figures 6-9. Figure 13 shows a number of attributes 1300 for which values are solicited from the user for the subject offering.

[0053] Figure 14 is a process diagram showing the derivation of three derived measures for the subject offering: cognition, affect, and experience. The values for

these derived measures are derived based upon the value of attributes shown in Figure 13 provided by the user for the subject offering.

[0054] Figure 15 is a table diagram showing sets of marketing activity allocations, each for a different combination of the three derived attributes shown in Figure 14. For example, Figure 15 indicates that, for subject offerings assigned a high cognition score and medium affects score should be assigned marketing resources in the following percentages: TV 44%, print magazines 12%, print newspapers 0%, radio 5%, outdoor 0%, internet search 10%, internet ad words 5%, direct marketing 12%, sponsorships/events 7%, PR/other 5%, and street 0%. Each of these nine groups of allocations is based on the relative activity elasticities, like those shown in Figure 3, grouped by the cognition and affect scores indicated for the groups of historical marketing efforts contained in the library.

[0055] Figure 16 is a process diagram showing how the initial allocation specified by the table in Figure 15 should be adjusted for a number of special conditions 1600.

[0056] Figure 17 is a process diagram showing how the facility determines dollar amount for spending on each marketing activity. The process 1700 takes the size of target audience specified by the user and divides by affective percentage of target to obtain a purchased reach – that is, the number of users to whom marketing messages will be presented. This number is multiplied by the adjusted allocation percentage to obtain a frequency per customer which is then multiplied by a number of purchase cycles per year and cost per impression to obtain estimated spending for each activity.

[0057] Figure 18 is a process diagram showing the final adjustment to the results shown in Figure 17. Process 1800 specifies scaling the target audience up or down to match the total marketing budget determined by the facility for the subject offering.

[0058] Figure 19 is a display diagram showing a display presented by the facility to portray resource allocation prescriptions made by the facility with respect to a number of related subject offerings, such as the same product packaged in three different forms. The display includes a chart 1910 that graphically depicts each of the related subject offerings, pack A, pack B, and pack C, each with a circle. The position of the center of the circle indicates the current and ideal total marketing budget allocated to

the offering, such that each circle's distance and direction from a 45° line 1920 indicates whether marketing spending should be increased or decreased for the offering and by how much. For example, the fact that the circle 1911 for pack A is above and to the left of the 45° line indicates that marketing spending should be increased for pack A. Further, the diameter and/or area of each circle reflects the total profit attributable to the corresponding subject offering assuming that the ideal total marketing budget specified by the facility for that offering is adopted. The display also includes a section 1930 containing a bar graph showing market share and volume, both current and ideal, for each related subject offering. The display also includes a section 1940 showing information similar to that shown in Section 1150 of Figure 11.

[0059]

[0060] Sample implementation:

[0061] Figures 20-49 show one or more sample implementations of the facility, discussed below.

[0062] Compass Purpose & Scope

[0063] Compass is an online based application that allows Marketing Executives to assess what their ideal Marketing Communications budget, spend and media allocation is as compared to their current spend. The marketing professional can see how much they would have to spend to optimize both their gross profit or to grow their business.

[0064] In order to generate the recommendations, the Compass application requires that a user go through an extensive questionnaire about their business, brand, products and customers. Based on the answers the user supplies, Compass will then recommend the ideal way the user should be spending their media budget.

[0065] The application will be targeted at both single company users and agency users. Depending on the type of account that is purchased, either an "Agency version" or "Consumer version" will be presented when a user logs in.

[0066] Ultimately, the Compass application will have full API support so that a customer can either integrate the functionality into a custom interface that the customer

hosts, or they can integrate existing products and relevant data into the Compass application.

[0067]

[0068] Compass Business Rules

[0069] 1. Compass must have API that allows a user to build a custom front-end that can access and utilize the Compass back-end functionality.

[0070] 2. Must have an administrative shell that allows an admin user to create sub-accounts with defined permission levels.

[0071] 3. Compass must retaining and leverage information that is entered into it, by industry type and by user type (or by any other category)

[0072] 4. Compass must have a co-brandable interface

[0073] 5. Compass must have the ability to bring in relevant third party data, which may be applied to results math or used for comparison to Compass recommended spend and media allocations.

[0074]

[0075] 1. Description of User Interface:

[0076] 1.1. Registration and Login: Users must contract with the provider and be manually allowed to register. A user's email address will be "accepted" only when valid contact is in place. Main account user can add accounts on their own. When account is created, the new account email will be delivered with login details for that user. A registered user can login as shown in Figure 20.

[0077] 1.2. Welcome Page: A welcome page is displayed as shown in Figure 21 when a user logs in.

[0078] 1.3. Dashboard: The user can navigate from the welcome page to a dashboard as shown in Figure 22.

[0079] 1.4. Wizard: The wizard is a questionnaire that a user must complete in order do get recommended media allocations and budgets from Compass. The questionnaire is divided into four sections: Questions about the user's company,

customers, products or services and their media and advertising. Each section must be completed in order to generate correct allocations.

[0080] 1.4.1. Wizard Math Calculations: Wizard uses elasticities to determine the optimal spend amounts for that user. It multiplies elasticities based on the type of answers the user selects as they complete the Wizard to come up with the value that will be applied to results recommendations.

[0081] 1.4.1.1. Starting base value is .05.

[0082] 1.4.1.2. Some questions have elasticities. The questions that do have elasticities are multiplied by the base value. The number is multiplied by the new elasticity as values are assigned, in the sequential order that the questions are asked.

[0083] 1.4.2. Section 1: Your Company

[0084] 1.4.2.1. Your Company Type and Target: Figure 23 shows a page of the wizard for entering the type of the user's company, and its primary market. In some embodiments, a Why Compass button: displayed on every slide, as shown in Figure 23. When this button is clicked, a pop-up such as the pop-up shown in Figure 24 is triggered. The user may close this pop-up by clicking the "x"

[0085] 1.4.2.1.1. Question 1: Type of Business: User must select the type of business they are in.

[0086] 1.4.2.1.1.1. Industries list available: <User may select one choice by clicking the industry to highlight it.>

[0087] • DCC Demo (temporary industry for purposed of Google demo)

[0088] • Retail (Grocery)

[0089] • Packaged Goods

[0090] • Automotive

[0091] • eCommerce/Online Retail

[0092] • Financial services

[0093] • Financial Services - Retail

[0094] • Entertainment

[0095] • Consumer Technology

[0096] • Business Technology

[0097] • Healthcare

[0098] • Travel and Leisure

[0099] • Government/Military

[00100] • Telecommunications

[00101] • Non-profit

[00102] • Real Estate

[00103] 1.4.2.1.1.2. Each type of business will draw from a table of media elasticities unique to that industry. The table that documents elasticities for each is available in Appendix B. Document in named AppendixB-MasterMediaElasticityTable_dcc_mh_v4_nov24.xls.

[00104] 1.4.2.1.2. Question 2: Who do you primarily sell to?

[00105] 1.4.2.1.2.1. User may select from dropdown:

[00106] 1.1.1.1..1..1. Consumers

[00107] 1.1.1.1..1..2. Businesses

[00108] 1.1.1.1..1..3. Both

[00109] 1.4.2.1.2.2. Default: Consumers

[00110] 1.4.2.1.2.3. Elasticities: 1.2, 0.8, 1.0

[00111] 1.4.2.1.2.4. The answer to this question will determine which "Target Market" questions are asked on Slide 4.

[00112] 1.4.2.1.3. Next slide prompt (Continue): User may select the Continue button or click on the name of the next slide in the Left Navigation.

[00113] 1.4.2.2. Revenue & Spending: Figure 25 shows a page of the wizard for entering the type of the user's company, and its primary market.

[00114] 1.4.2.2.1. Question 3: In the last 12 months, what was your revenue?

[00115] 1.4.2.2.1.1. User must highlight number and retype entire number to enter.

[00116] 1.4.2.2.1.2. Value range: $1-9,999,999,999

[00117] 1.4.2.2.1.3. Default value is $100,000

[00118] 1.4.2.2.2. Question 4: In these same 12 months, what percentage of your revenue have you spent on MarCom?

[00119] 1.4.2.2.2.1. User may enter a percentage by highlighting number and typing in new number

[00120] 1.4.2.2.2.2. User may select a number by sliding the "slider" from left to right

[00121] 1.4.2.2.2.3. User my enter a dollar amount in the text box below percentage box.

[00122] 1.4.2.2.2.4. All 3 inputs are linked and all move when one is moved.

[00123] 1.4.2.2.2.5. Value range is 1-100%

[00124] 1.4.2.2.2.6. Notification: textbox outline will turn red if user selects over 20%.

[00125] 1.4.2.2.2.7. Default value 1%/$1,000

[00126] 1.4.2.2.3. Question 5: What is your gross margin?

[00127] 1.4.2.2.3.1. User may enter percentage by highlighting number and typing in new number.

[00128] 1.4.2.2.3.2. User my select percentage by sliding "slider" from left to right.

[00129] 1.4.2.2.3.3. Notification: textbox outline will turn red if user selects below 35%.

[00130] 1.4.2.2.3.4. Default value: 50%

[00131] 1.4.2.2.3.5. Next slide prompt (Continue): User may select the Continue button or click on the name of the next slide in the Left Navigation.

[00132] 1.4.2.3. Your Market: Figure 26 shows a page of the wizard for entering details of the company's market.

[00133] 1.4.2.3.1. Question 6: Where do you currently advertise your product or services?

[00134] 1.4.2.3.1.1. User may select multiple locations by checking boxes:

[00135] 1.1.1.1....1. US: East Coast

[00136] 1.1.1.1....2. US: Midwest

[00137] 1.1.1.1....3. US: West

[00138] 1.1.1.1....4. Canada

[00139] 1.1.1.1....5. Europe

[00140] 1.1.1.1....6. Asia-Pacific

[00141] 1.1.1.1....7. Latin/South America

[00142] 1.1.1.1....8. Africa/Middle East

[00143] 1.4.2.3.2. Question 7: How fast do you expect your category to grow next year? (Enter a % amount between -100% and +100%)

[00144] 1.4.2.3.2.1. Enter percentage growth in text box

[00145] 1.4.2.3.2.2. Value range: -100-100%

[00146] 1.4.2.3.2.3. Textbox value range: -100%-100%

[00147] 1.4.2.3.2.4. Default value: 0.00%

[00148] 1.4.2.3.3. Question 8: Do you know your approximate current market share?

[00149] 1.4.2.3.3.1. User may enter percentage into textbox

[00150] 1.4.2.3.3.2. Value range: 0-100%.

[00151] 1.4.2.3.3.3. Checkbox: If user does not know, they may select the "I don't know" checkbox. This will grey out the percentage entry form.

[00152] 1.4.2.3.3.4. Default value: 5%

[00153] 1.4.2.3.3.5. Elasticities: 1.2, 1, 0.8

[00154] 1.4.2.3.4. Question 9: How established is your product or services category within your industry?

[00155] 1.4.2.3.4.1. User may select one value from the dropdown:

[00156] 1.1.1.1....1. -Select one-

[00157] 1.1.1.1....2. Well established (10 years or more)

[00158] 1.1.1.1....3. Recently established (3-9 years)

[00159] 1.1.1.1....4. Very new (less than 3 years)

[00160] 1.4.2.3.4.2. Elasticities: 0.8, 1.0, 1.5

[00161] 1.4.2.3.5. Next slide prompt (Continue): User may select the Continue button or click on the name of the next slide in the Left Navigation.

[00162] 1.4.3. Section 2: Your Customers

[00163] 1.4.3.1. Target Market: Figure 27 shows a page of the wizard for entering details of the company's target market.

[00164] 1.4.3.1.1. Question 10: What age range of consumers do you market your products or services to?

[00165] 1.4.3.1.1.1. User may select one from dropdown:

[00166] 1.1.1.1.1....1. -select one-

[00167] 1.1.1.1.1....2. Adults 18-49

[00168] 1.1.1.1.1....3. Teens 12-17

[00169] 1.1.1.1.1....4. Kids 3-11

[00170] 1.1.1.1.1....5. Adults 50+

[00171] 1.4.3.1.1.2. Conditional display: This question is only displayed if user selected that they market to Consumers or Both on Slide 1.

[00172] 1.4.3.1.2. Question 11: What size businesses do you market your products or services to?

[00173] 1.4.3.1.2.1. User may select from dropdown:

[00174] 1.1.1.1....1. -select one-

[00175] 1.1.1.1....2. Small Business

[00176] 1.1.1.1....3. Large Business

[00177] 1.4.3.1.2.2. Conditional display: This question is only displayed if user selected that they market to Businesses or Both on Slide 1.

[00178] 1.4.3.1.3. Next slide prompt (Continue): User may select the Continue button or click on the name of the next slide in the Left Navigation.

[00179] 1.4.3.2. Product Research: Figure 28 shows a page of the wizard for entering details of the company's product research.

[00180] 1.4.3.2.1. Question 12: Does the customer need a lot of information to make a decision to purchase your product or services?

[00181] 1.4.3.2.1.1. User may select value from slider

[00182] 1.4.3.2.1.2. Value range: "very little" to "a lot"

[00183] 1.4.3.2.1.3. Elasticities: 1.2 to 0.8

[00184] 1.4.3.2.2. Question 13: From a customer perspective, how complex are the products or services that you are offering?

[00185] 1.4.3.2.2.1. User may select value from slider

[00186] 1.4.3.2.2.2. Value range: "Very Simple", "Simple", "Complex", "Very Complete"

[00187] 1.4.3.2.3. Next slide prompt (Continue): User may select the Continue button or click on the name of the next slide in the Left Navigation.

[00188]

[00189] 1.4.3.3. Customer buying habits: Figure 29 shows a page of the wizard for entering details of the company's customer buying habits.

[00190] 1.4.3.3.1. Question 14: To what extent do customers scrutinize your product or service before purchasing it?

[00191] 1.4.3.3.1.1. User may select value using slider

[00192] 1.4.3.3.1.2. Value range: "They extremely scrutinize it" to "The purchase it purely habitually"

[00193] 1.4.3.3.1.3. Elasticities: 0.8 to 1.2

[00194] 1.4.3.3.2. Question 15: Do customers purchase into your product or service category on emotional or rational grounds?

[00195] 1.4.3.3.2.1. User may select value using slider

[00196] 1.4.3.3.2.2. Value range: "Pure rational" to "Pure emotional"

[00197] 1.4.3.3.2.3. Elasticities: 0.8 to 1.2

[00198] 1.4.3.3.3. Question 16: How can customers tell the quality of your product or services before purchase?

[00199] 1.4.3.3.3.1. User may select value using slider

[00200] 1.4.3.3.3.2. Value range: "By comparing its features", "Only after using it", "Difficult to rate even after use"

[00201] 1.4.3.3.3.3. Elasticities: 0.7 to 1.3

[00202] 1.4.3.3.4. Question 17: How frequently do your customers typically purchase into your product or services category?

[00203] 1.4.3.3.4.1. User may select from dropdown:

[00204] 1.1.1.1...1. -select one-

[00205] 1.1.1.1...2. Daily

[00206] 1.1.1.1...3. Weekly

[00207] 1.1.1.1...4. Monthly

[00208] 1.1.1.1...5. Quarterly

[00209] 1.1.1.1...6. Yearly

[00210] 1.1.1.1...7. Every several years

[00211] 1.1.1.1...8. Just once

[00212] 1.4.3.3.4.2. Note: To see all values in dropdown, user must use scroll bar.

[00213] 1.4.4. Section 3: Product or Services

[00214] 1.4.4.1. Pricing and current needs: Figure 30 shows a page of the wizard for entering details of the company's products or services.

[00215] 1.4.4.1.1. Question 18: What is the general price point of the products or services in your category?

[00216] 1.4.4.1.1.1. Textbox value range values $0-9,999,999,999

[00217] 1.4.4.1.1.2. No default value

[00218] 1.4.4.1.2. Question 19: How would you characterize your product or service?

[00219] 1.4.4.1.2.1. User may select from dropdown:

[00220] 1.1.1.1.1...1. –select one-

[00221] 1.1.1.1.1...2. High-end

[00222] 1.1.1.1.1...3. Mid-range positioned

[00223] 1.1.1.1.1...4. Discount and value positioned

[00224] 1.4.4.1.3. Question 20: Focus in on what you will be marketing next year. Is this to support a new product or service?

[00225] 1.4.4.1.3.1. User may select from dropdown:

[00226] 1.1.1.1.1...1. Yes

[00227] 1.1.1.1.1...2. No

[00228] 1.4.4.1.3.2. Default value: No

[00229] 1.4.4.1.3.3. Elasticities: yes=1.5 no=1

[00230] 1.4.4.1.3.4. If user selects Yes, they must answer Question 21

[00231] 1.4.4.1.4. Question 21: If new, is there a tangible new benefit or competitive value to your product or service?

[00232] 1.4.4.1.4.1. User may select from dropdown:

[00233] 1.1.1.1.1...1. –select one-

[00234] 1.1.1.1.1...2. Yes

[00235] 1.1.1.1.1...3. No

[00236] 1.4.4.1.4.2. Elasticities: yes=2 no=1

[00237] 1.4.5. Section 4: Media and Advertising

[00238] 1.4.5.1. About your budget: Figure 31 shows a page of the wizard for entering details of the company's customer buying habits.

[00239] 1.4.5.1.1. Question 22: Is your MarCom budget set by you?

[00240] 1.4.5.1.1.1. User may select from dropdown:

[00241] 1.1.1.1.1...1. –select one-

[00242] 1.1.1.1.1...2. Yes

[00243] 1.1.1.1.1...3. No

[00244] 1.4.5.1.1.2. Default value: Yes

[00245] 1.4.5.1.2. Question 23: Do you have a constraint on your MarCom budget that you cannot spend over? If so, what is the absolute budget you must work within? If you do not select a hard budget, Compass will be your guide and tell you how much you should be spending on MarCom.

[00246] 1.4.5.1.2.1. Textbox: numerical entry only

[00247] 1.4.5.1.2.2. Value range: $0-9,999,999,999

[00248] 1.4.5.2. About your media: Figure 32 shows a page of the wizard for entering details of the company's media.

[00249] 1.4.5.2.1. Question 24: Which best describes the content or style of your current MarCom?

[00250] 1.4.5.2.1.1. User may select from slider:

[00251] 1.4.5.2.1.2. Value range: "Fact-based – product, service, or price" to "Warm and Fuzzy – an emotional connection"

[00252] 1.4.5.2.1.3. Elasticities: fact-based=1.5 for print, warm=1.5 for TV, otherwise=1

[00253] 1.4.5.2.2. Question 25: How would you assess the quality of your MarCom's creative elements?

[00254] 1.4.5.2.2.1. User may select from slider:

[00255] 1.4.5.2.2.2. Value range; "Poor", "Below average", "Average", "Good", "Exceptional"

[00256] 1.4.5.2.2.3. Elasticities: 1.2, 1, 1, 1, 0.9

[00257] 1.4.5.2.3. Question 26: How do you gauge the effectiveness of your MarCom strategy?

[00258] 1.4.5.2.3.1. User may check all that apply:

[00259] 1.1.1.1.1...1. Increased revenue

[00260] 1.1.1.1.1...2. Increased market share

[00261] 1.1.1.1.1...3. Increased distribution

[00262] 1.1.1.1.1...4. Improved profitability

[00263] 1.1.1.1.1...5. Improved buzz

[00264]

[00265] 1.4.5.3. About your brand: Figure 33 shows a page of the wizard for entering details of the company's brand.

[00266] 1.4.5.3.1. Question 27: Would you say 'brand personality' helps your revenue/market share in your category?

[00267] 1.4.5.3.1.1. User may select from slider:

[00268] 1.4.5.3.1.2. Value range: "Does not matter at all" to "Matters a lot"

[00269] 1.4.5.3.1.3. Elasticities: yes - 1.3, no - 1.0

[00270] 1.4.5.3.2. Question 28: What is your brand awareness with your customer base?

[00271] 1.4.5.3.2.1. User may select from slider:

[00272] 1.4.5.3.2.2. Value range: "My brand is very familiar" to "my brand is completely unknown"

[00273] 1.4.5.3.2.3. Elasticities: 0.5 to 1 2

[00274] 1.4.5.3.3. Question 29: When thinking about your MarCom media spending relative to your competition, your share of voice is:

[00275] 1.4.5.3.3.1. User may select from dropdown:

[00276] 1.1.1.1.1...1. –select one-

[00277] 1.1.1.1.1...2. The same as your market share

[00278] 1.1.1.1.1...3. Is higher than your market share

[00279] 1.1.1.1.1...4. Is lower than your market share

[00280] 1.4.5.3.3.2. Elasticities: 1.0, 0.7, 1.3

[00281] Your media allocation: Figure 34 shows a page of the wizard for entering details of the company's media allocation for a prior period, such as the past 12 months. Figure 35 shows this page following the entry of historical allocations.

[00282] 1.4.5.4. Question 30: The MarCom budget you spent for the past 12 months is: [dynamic text indicating users' budgets]. Enter the percentage amounts for how your MarCom budget was allocated:

[00283] 1.4.5.4.1. User must select the percentage of their budget that they spent on each media in the last year.

[00284] • TV: Percent allocation and dollar amount that that translates into.

[00285] • Radio: Percent allocation and dollar amount that that translates into.

[00286] • Print: Percent allocation and dollar amount that that translates into.

[00287] • Internet Search: Percent allocation and dollar amount that that translates into.

[00288] • Internet Display: Percent allocation and dollar amount that that translates into.

[00289] • Other: Percent allocation and dollar amount that that translates into.

[00290] • Unallocated: This section displays the amount percentage has not been allocated to a media type. The dollar amount of budget unallocated is reflected below the percentage unallocated.

[00291] 1.4.5.4.2. Elasticities: Elasticities vary by media type and industry.

[00292] 1.4.5.4.3. Constraints column: User may add constraint by checking the constraint box to the right.

[00293] 1.4.5.4.3.1. Question to turn on constraints: If you need to add a spend constraint (amount you must spend on that media) to any of the media types, check this box. 0 denotes no constraint.

[00294] 1.4.5.4.3.2. User can enter any dollar amount is this box. If dollar amount is entered, the Compass recommended optimal spend for that media will not exceed the number that the user entered. Figure 36 shows this page after the user has entered a constraint.

[00295] 1.4.5.5. Continue button is disabled until the user has allocated exactly 100% of their MarCom budget. When user clicks the continue button, the optimization is triggered.

[00296] 1.4.5.6. Optimization: Figure 37 shows a page of the wizard describing the optimization process. The user clicks a View Results button to view results screens.

[00297] 1.5. Results Pages

[00298] 1.5.1. Optimize for Growth: The user clicks a View Results button to view results screens.

[00299] The first screen the user lands on in the Results section is the Budget page, as shown in Figure 38. This page displays the user's current MarCom state, as it was entered in the Wizard. There are two versions of this slide, one for optimal Growth and one for optimal Profit.

[00300] This page defaults to the optimal budget for *growing* revenue.

[00301] 1.5.1.1. Growth button is slightly highlighted in lower section of slide to indicate that the user is currently optimizing for Growth.

[00302] 1.5.1.2. Page header Copy:

[00303] Optimize for Growth:

[00304] Based on what you've told us and how you answered our questions about your business, Compass has the following recommendations for your MarCom budget. Click the ALLOCATION or SPENDING tabs above to see where we recommend you allocate your MarCom dollars for best results.

[00305] 1.5.1.3. Budget table: Figure 39 shows a version of the budget table included in Figure 38 updated in response to the user entering a new revenue target.

[00306] 1.5.1.3.1. Current column: displays the numbers that user has entered in the Wizard about their previous year's spend.

[00307] 1.5.1.3.2. Required for Growth column: displays the necessary numbers to grow to the users stated growth target.

[00308] 1.5.1.3.2.1. User must enter growth target in the text box below, labeled: "Please enter a $ revenue target for growth:

[00309] 1.5.1.3.2.2. Default value is equal to user's current revenue.

[00310] 1.5.1.3.2.3. When number is entered in box, the Required for Growth column with change to reflect new numbers.

[00311] 1.5.1.4. Constraints checkbox: If the user had selected media constraints on the Media Allocation page in the Wizard, they can enable or disable the constraints by checking and un-checking the constraints checkbox.

[00312] 1.5.2. Alternate View: Budget – Optimize for Profit

[00313] When the user clicks the Profit button on the Budget page, the table changes to a table that reflects the optimal MarCom Budget, Revenue for maximizing Profit, shown in Figure 40.

[00314] 1.5.2.1. Allocation Page optimized for Growth: There are two versions of the allocation page--one to reflect an optimal Profit scenario and one to reflect an optimal Growth scenario. Figure 41 shows the version of the allocation page reflecting the optimal Growth scenario.

[00315] 1.5.2.1.1. Current Media Allocation: This section stays constant on all results slides.

[00316] 1.5.2.1.2. Optimal Media Allocation for Revenue Growth: reflects recommended allocation of media when user is trying to meet their stated revenue target.

[00317] 1.5.2.1.3. Difference: reflects the difference in Current Allocation and Recommended Allocation.

[00318] 1.5.2.2. Allocation Slide optimized for Profit: Figure 42 shows the version of the allocation page reflecting the optimal Profit scenario.

[00319] 1.5.2.2.1. Current Media Allocation: This section stays constant on all results slides.

[00320] 1.5.2.2.2. Optimal Media Allocation for Profit: reflects recommended allocation of media when user is trying to optimize (find maximum) Profit.

[00321] 1.5.2.2.3. Difference: reflects the difference in Current Allocation and Recommended Allocation.

[00322] 1.5.2.3. Spending Page optimized for Growth: There are two versions of the spending page--one to reflect optimal Profit scenario and one to reflect optimal

Growth scenario. Figure 43 shows the version of the spending page reflecting the optimal Growth scenario.

[00323] 1.5.2.3.1. Current Media Allocation: This section stays constant on all results slides.

[00324] 1.5.2.3.2. Optimal Media Allocation for Revenue Growth: reflects recommended allocation of media when user is trying to meet their stated revenue target, in dollars.

[00325] 1.5.2.3.3. Difference, lower section: reflects the difference in Current Allocation and Recommended Allocation.

[00326] 1.5.2.3.4. Difference, line graph: allows users to see where their optimal revenue and MarCom spend is.

[00327] 1.5.2.3.4.1. Gross Revenue line (yellow): Shows gross revenue as MarCom spend increases.

[00328] 1.5.2.3.4.2. Profit (blue): Shows profit as MarCom spend increases.

[00329] 1.5.2.3.4.3. Current Spend (red): line represents where user stands in revenue and profit based on their current media spend.

[00330] 1.5.2.3.4.4. Optimal Spend (green): line represents where user should be spending in order to maximize their expressed revenue growth target.

[00331] 1.5.2.4. Spending Page optimized for Profit Figure 44 shows the version of the allocation page reflecting the optimal Profit scenario.

[00332] 1.5.2.4.1. Current Media Allocation: This section stays constant on all results slides.

[00333] 1.5.2.4.2. Optimal Media Allocation for Profit: reflects recommended allocation of media when user is trying to achieve their maximum profit, in dollars.

[00334] 1.5.2.4.3. Difference, lower section: reflects the difference in Current Allocation and Recommended Allocation.

[00335] 1.5.2.4.4. Difference, line graph: allows users to see where their optimal revenue and MarCom spend is.

[00336] 1.5.2.4.4.1. Gross Revenue line (yellow): Shows gross revenue as MarCom spend increases.

[00337] 1.5.2.4.4.2. Profit (blue): Shows profit as MarCom spend increases.

[00338] 1.5.2.4.4.3. Current Spend (red): line represents where user stands in revenue and profit based on their current media spend.

[00339] 1.5.2.4.4.4. Optimal Spend (green): line represents where user should be spending in order to maximize their profit.

[00340] 1.5.2.5. Plan Media page optimized for Growth: This page allows the user to review the ad buy that was recommended by Compass. There are two versions of the plan media page--one to reflect an optimal Profit scenario and one to reflect an optimal Growth scenario. Figure 45 shows the version of the plan media page reflecting the optimal Growth scenario.

[00341] 1.5.2.5.1. Optimization Results: Media Spend for Revenue Growth

[00342] 1.5.2.5.2. Each media type percent and dollar amount is displayed

[00343] 1.5.2.5.2.1. Flighting button: button takes user to Flighting/Digital Buy page.

[00344] 1.5.2.6. Plan Media page Optimized for Profit: Figure 46 shows the version of the plan media page reflecting the optimal Profit scenario.

[00345] 1.5.2.7. Optimization Results: Media Spend for Profit

[00346] 1.5.2.8. Each media type percent and dollar amount is displayed

[00347] 1.5.2.8.1. Flighting button: button takes user to Flighting/Digital Buy page.

[00348] 1.5.2.9. Flighting/Digital Buy page: This page allows the user to fulfill the ad buy that was recommended by Compass. There are two versions of the Flighting/Digital Buy page--one for recommended spend based on optimal profit and

one for recommended spend for stated growth target. Figure 47 shows the version of the Flighting/Digital Buy page reflecting the optimal Growth scenario.

[00349] 1.5.2.10. Flighting/Digital Buy –Optimized for Profit: Figure 48 shows the version of the Flighting/Digital Buy page reflecting the optimal Profit scenario.

[00350] 1.5.2.11. Completing the Digital Buy page: Figure 49 shows the completion of the Digital Buy page shown in Figure 47.

[00351] 1.5.2.11.1. Media Rows: User can enter the amount they wish to spend by month by checking the box and entering the dollar amount. Amount requested will display next to Planned Spend so user can track overspend.

[00352] 1.5.2.11.2. Once the requested spend amounts are completed, the user can select and ad vendor from the dropdown list. When vendor has been selected and user clicks "Buy Digital", user will be taken to appropriate vendor web page with spend amounts per month already calculated.

[00353] 1.5.2.11.3. Vendors: Currently, Google is the only vendor populated in dropdown list. Each links to the appropriate Google page for that media type buy.

[00354]

[00355] Sample calculations:

[00356] Figures 50 and 51 show sample results produced by the facility.

[00357]

[00358] Equations:

[00359] In some embodiments, the facility uses an approach such as the following to determine a level of spending expected to optimize growth and/or profit.

The variable elast_b represents the elasticity values of all questions multiplied together and multiplied against a constant currently set to .05. The ceiling for this value is .3.

[00360] Base_k represents the base revenue generated with a zero MarCom spend and is calculated:

$$base_k = \frac{revenue_y}{budget_x^{elast_b}}$$

[00361] The Optimal budget computed for optimal profit, x prime, is calculated:

$$x' = elast_b \cdot base_k \cdot growth \cdot m\arg in^{\frac{1}{(1-elast_b)}}$$

[00362] Optimal revenue computed for optimal profit, k prime, is calculated:

$$y' = (base_k \cdot growth) \cdot x'^{elast_b}$$

[00363] Optimizing for growth starts by defining the targetGrowth variable as:

$$t\arg etGrowth = \frac{(t\arg et\,Revenue_y - revenue_y)}{revenue_y}$$

[00364] The budget required to reach the growth target is defined as:

$$requiredBudget = \left(\frac{t\arg et\,Revenue_y}{(base_k \times growth)}\right)^{\frac{1}{elast_b}}$$

[00365] Where growth is a multiplier expressed as a number between 0 and 1, and the resulting profit can be computed:

$$result\,Profit = t\arg et\,Revenue_y \times m\arg in_m - requiredBudget$$

[00366] Conclusion

[00367] It will be appreciated by those skilled in the art that the above-described facility may be straightforwardly adapted or extended in various ways. While the foregoing description makes reference to particular embodiments, the scope of the

invention is defined solely by the claims that follow and the elements explicitly recited therein.

CLAIMS

We claim:

[c1] 1. A method in a computing system for automatically prescribing an allocation of resources to a total marketing budget for a distinguished offering, with the goal of optimizing a distinguished business outcome for the offering that is expected to be driven at least in part by the allocation of resources to the total marketing budget, comprising:
receiving qualitative attributes of the distinguished offering from a user;

retrieving a derived average total marketing budget lift factor;

adjusting the derived average total marketing budget lift factor based upon at least two of the received qualitative attributes of the distinguished offering; and

using the adjusted derived average total marketing budget lift factor to determine an allocation of resources to a total marketing budget that tends to optimize the distinguished business outcome,

wherein the derived average total marketing budget lift factor is derived before receiving the qualitative attributes of the distinguished offering from the user.

[c2] 2. The method of claim 1, further comprising persistently storing the determined allocation of resources.

[c3] 3. The method of claim 1, further comprising displaying the determined allocation of resources to a user.

[c4] 4. The method of claim 1 wherein the retrieved average total marketing budget lift factor is an average total marketing budget elasticity measure.

[c5] 5. A computer-readable medium whose contents cause a computing system to perform a method for automatically prescribing an allocation of resources to a total

marketing budget for a distinguished offering, with the goal of optimizing a distinguished business outcome for the offering that is expected to be driven at least in part by the allocation of resources to the total marketing budget, comprising:

receiving qualitative attributes of the distinguished offering from a user;

retrieving an empirically obtained average total marketing budget lift factor;

adjusting the empirically obtained average total marketing budget lift factor based upon at least two of the received qualitative attributes of the distinguished offering; and

using the adjusted empirically obtained average total marketing budget lift factor to determine an allocation of resources to a total marketing budget that tends to optimize the distinguished business outcome,

wherein the empirically obtained average total marketing budget lift factor is empirically obtained before receiving the qualitative attributes of the distinguished offering from the user.

[c6] 6. A method in a computing system for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to a distinguished offering, with the goal of optimizing a business outcome for the offering that is expected to be driven at least in part by the activities, comprising:

receiving information from a user characterizing attributes of the distinguished offering;

for each of the activities, determining a lift factor derived from empirical results for one or more offerings;

adjusting the lift factor based upon at least two of the characterizing attributes of the distinguished offering received from the user; and

using the adjusted lift factor to generate an allocation of resources for each of the activities,

wherein the lift factor derived from empirical results for one or more offerings is derived before receiving information from a user characterizing attributes of the distinguished offering.

[c7] 7. The method of claim 6 wherein the determining comprises:

using the received information characterizing a first portion of the attributes of the distinguished offering to select a lift factor corresponding to empirical results for offerings whose first portion of attributes are characterized in a similar way; and

adjusting the selected lift factor based on using the received information characterizing a second portion of the attributes of the distinguished offering.

[c8] 8. The method of claim 6, further comprising automatically committing resources to at least one of the activities in accordance with the allocation generated for those activities.

[c9] 9. A computer-readable medium whose contents cause a computing system to perform a method for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to a distinguished offering, with the goal of optimizing a business outcome for the offering that is expected to be driven at least in part by the activities, the method comprising:

receiving information from a user characterizing attributes of the distinguished offering;

for each of the activities, determining a lift factor derived from empirical results for one or more offerings;

adjusting the lift factor based upon at least two of the characterizing attributes of the distinguished offering received from the user; and

using the adjusted lift factor to generate an allocation of resources for each of the activities,

wherein the lift factor derived from empirical results for one or more offerings is derived before receiving information from a user characterizing attributes of the distinguished offering.

[c10] 10. The computer-readable medium of claim 9 wherein the determining comprises:

using the received information characterizing a first portion of the attributes of the distinguished offering to select a lift factor corresponding to empirical results for offerings whose first portion of attributes are characterized in a similar way; and

adjusting the selected lift factor based on using the received information characterizing a second portion of the attributes of the distinguished offering.

[c11] 11. The computer-readable medium of claim 9 further comprising automatically committing resources to at least one of the activities in accordance with the allocation generated for those activities.

[c12] 12. One or more computer memories collectively storing a generalized marketing lift factor data structure, comprising a plurality of entries each for a different business offering profile, each business offering profile specifying a set of qualitative offering attributes that distinguish the business offering profile from the other business offering profiles, each entry containing a lift factor indicating the effect of a marketing activity with respect to the group of business offerings on a business outcome,

wherein, for a distinguished offering described by a distinguished one of the profiles, the lift factor indicated by a distinguished entry may be adjusted in response to receiving a set of qualitative offering attributes of the distinguished offering and then used to automatically specify an allocation of marketing resources to the distinguished offering, and

wherein the lift factor is derived before receiving the set of qualitative offering attributes of the distinguished offering.

[c13] 13. The computer memories of claim 12 wherein the lift factor contained by each entry is an elasticity measure.

[c14] 14. The method in a computing system for automatically prescribing an allocation of resources to a total marketing budget for a distinguished offering of claim 1, wherein the distinguished offering is offered by a distinguished business, and wherein the derived average total marketing budget lift factor is derived from offerings offered by businesses other than the distinguished business.

[c15] 15. The computer-readable medium whose contents cause a computing system to perform a method for automatically prescribing an allocation of resources to a total marketing budget for a distinguished offering of claim 5, wherein the distinguished offering is offered by a distinguished business, and wherein the average total marketing budget lift factor is empirically obtained from offerings offered by businesses other than the distinguished business.

[c16] 16 The method in a computing system for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to a distinguished offering of claim 6, wherein the distinguished offering is offered by a distinguished business, and wherein the lift factor derived from empirical results for one or more offerings is derived from offerings offered by businesses other than the distinguished business.

[c17] 17. A computer-readable medium whose contents cause a computing system to perform a method for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to a distinguished offering of claim 9, wherein the distinguished offering is offered by a distinguished business, and wherein the lift factor derived from empirical results for one or more offerings is derived from offerings offered by businesses other than the distinguished business.

[c18] 18. The one or more computer memories collectively storing a generalized marketing lift factor data structure of claim 12, wherein the distinguished offering is offered by a distinguished business, and wherein the lift factor indicating the effect of a marketing activity with respect to the group of business offerings on a business outcome is derived from offerings offered by businesses other than the distinguished business.

[c19] 19. A method in a computing system for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to a distinguished offering, with the goal of optimizing a business outcome for the offering that is expected to be driven at least in part by the activities, comprising:

receiving information from a user characterizing attributes of the distinguished offering;

for each of the activities, selecting a pre-derived lift factor derived from results for one or more offerings;

adjusting the lift factor based upon at least two of the characterizing attributes of the distinguished offering received from the user; and

using the adjusted lift factor to generate an allocation of resources for each of the activities,

wherein at least a portion of the information from a user characterizing attributes of the distinguished offering is used in selecting the pre-derived lift factor.

[c20] 20. The method in a computing system for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to a distinguished offering of claim 19, wherein the information from a user characterizing attributes of the distinguished offering includes information characterizing both attributes and aspirations of the distinguished offering.

[c21] 21. The method in a computing system for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to

a distinguished offering of claim 19, wherein the information from a user characterizing attributes of the distinguished offering includes at least two attributes selected from the group consisting of industry newness, marketing innovation, new information, market share, and advertising quality.

[c22] 22. A method in a computing system for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to a first offering, with the goal of optimizing a business outcome for the first offering, comprising:

receiving information from a user characterizing attributes of the first offering;

for each of the activities, selecting a lift factor empirically obtained from results for one or more other offerings, wherein the lift factor is empirically obtained before receiving information from a user characterizing attributes of the first offering;

adjusting the lift factor based upon at least two of the characterizing attributes of the first offering received from the user; and

using the adjusted lift factor to generate an allocation of resources for each of the activities.

[c23] 23. The method in a computing system for automatically prescribing an allocation of resources to each of one or more activities to be performed with respect to a first offering of claim 22, wherein the first offering is by a first business, and wherein the average total marketing budget lift factor is empirically obtained from offerings by businesses other than the first business.